Opening Date: September 25, 2014
Closing Date: Open until filled
Work Location: Austin, Texas
Posting Number: 15-04
Monthly Salary: $4,838
Group/Class: B21/2464, B23/2465 or B22/2152, B23/2153
Travel: 10%
Division: Water Science & Conservation – Surface Water Resources (Bays & Estuaries)
Number of Positions: 1
Position Number: 1093

JOB VACANCY NOTICE

Coastal Modeler
(Hydrologist III/IV or Engineer II/III)

Apply Via Mail/Hand Delivery: Texas Water Development Board Stephen F. Austin Building, 1700 North Congress Ave., Room 670, Austin, Texas 78701 or via facsimile (512) 463-7644 or via email HR@twdb.texas.gov. Refer to Human Resources (512) 475-2142 Equal Opportunity Employer

Job Description

The Texas Water Development Board (TWDB) seeks a Coastal Modeler to join the Bays and Estuaries (B&E) Team in the Surface Water Resources Division at the agency's headquarters in Austin, Texas. The Coastal Modeler will develop, maintain, and apply complex hydrodynamic and salinity transport models of Texas bays in order to support the evaluation of freshwater inflow needs for Texas estuaries. This position primarily will investigate, develop, and implement the use of improved methods and data for developing estuary hydrodynamic and transport models. The position also will assist in the planning, execution, and analysis of scientific and engineering field studies of state streams, rivers, bays, and estuaries and will work under moderate supervision with considerable latitude for use of initiative and independent judgment. The Coastal Modeler works within a highly technical division of the agency which is charged with maintaining a continuous data collection, modeling, and analytical study program focused on determining the needs for freshwater inflows to Texas estuaries.

Essential Job Functions

- Develop, maintain, and apply hydrodynamic models of rivers and estuaries using 2D and 3D hydrodynamic and salinity transport models.
- Develop and apply scripts and programs to reformat input/output data files for model execution and for analysis and visualization of field data and model results.
- Perform mathematical and statistical analyses of various types of water resources.
- Revise existing hydrodynamic model source code and implement new algorithms and functionality.
- Serve as contract manager for research and monitoring contracts.
- Write, review, and evaluate technical memos, reports and policy documents; present expert testimony as required.
- Serve as a liaison and provide technical support to stakeholder groups and scientific committees.
- Requires work days to occasionally exceed 8 hours, including early mornings and late nights.
- Assist with field studies, including planning, on-site work, equipment installation, data acquisition, and data management. Requires work outdoors possibly during inclement weather or under hot and cold temperatures.
- Work under moderate supervision; show responsibility and ownership towards projects and use independent judgment.

Minimum Qualifications

- Graduation from an accredited four-year college or university with a Bachelor of Science in civil engineering, hydrology, geology, oceanography, or related field with emphasis in hydrology, hydrodynamics, water resources, or scientific computing PLUS:
- Graduate degree (in process or completed) with experience in hydrodynamics, water resources, scientific computing, numerical modeling or related field.
- Experience in high-level programming languages (Fortran, C++, or equivalent).
- Classification as Engineer requires licensure as a Professional Engineer in the State of Texas.

Female and minority applicants are encouraged to apply.

Males born on or after January 1, 1960, will be required to present proof of Selective Service registration on the first day of employment or proof of exemption from Selective Service registration requirement. All offers of employment are contingent upon the candidate having legal authorization to work in the United States. Failure to present such authorization within the time specified by the U.S. Department of Labor will result in the offer being rescinded. Only applicants interviewed will be notified of their selection or non-selection. Resumes will not be accepted in place of a completed State of Texas application unless indicated.

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Preferred Qualifications

- Experience developing, applying, or running estuarine hydrodynamic and transport models (*e.g.*, SELFE, ADCIRC, FVCOM, SUNTANS, TxBLEND, *etc*.) or other computational/numerical models, may include experience gained thru coursework, academic research, internships or job experience
- Experience preparing model inputs, model application, and analysis of results.
- Experience using scripting languages such as Perl, Python, bash, *etc*.
- Experience with Unix/Linux operating systems is preferred.
- Experience with MPI programming or running models on parallel computing clusters is preferred.
- Experience with grid generation packages like SMS is preferred.
- Experience using numerical/visualization tools, *e.g.,* Matlab, Octave, Scipy/Numpy, Matplotlib, Tecplot, Gnuplot, *etc*.
- Experience in quality assurance/quality control or analysis of scientific measurement data.
- Experience in processing, displaying, and analyzing scientific or spatial data, including large data sets.

Knowledge, Skills, and Abilities

- Advanced knowledge of scientific, engineering, statistical, and/or hydrologic principles and techniques
- Knowledge of hydrologic and/or hydrodynamic modeling
- Skills in quality assurance/quality control of scientific measurement data
- Skills in processing, displaying, and analyzing scientific data, including large data sets
- Skills in or willingness to learn basic programming (*e.g.,* python, *etc.*) to compare hydrologic datasets
- Skills in or willingness to learn basic spatial data analysis techniques (*e.g.,* ArcGIS, *etc.*)
- Ability to effectively communicate technical issues verbally and in writing to general and technical audiences
- Ability to work independently and as a member of a team, to accept assignments from multiple authorities, and to accomplish several tasks concurrently
- Ability and willingness to conduct field research and to use field equipment such as flow meters, water quality instruments, and operate small boats.
- Ability and willingness to walk over varying terrain, carry equipment in varying weather, and to work in small boats.
- Ability and willingness to travel 10% of the time.

Remarks

- Applicants are encouraged to submit a cover letter and resume *in addition to* the required State application form.
- Copy of required academic transcripts and/or licensures and copy of driving record must be submitted at the time of hire. Failure to provide required documentation will result in no further consideration for employment.

  Important Notice: Otherwise qualified candidates who are ultimately considered for potential employment with the Texas Water Development Board may be the subject of a request for any criminal history record information maintained by the Texas Department of Public Safety (DPS). Evidence of a criminal conviction or other relevant information obtained from the DPS shall not automatically disqualify an individual from employment with the Texas Water Development Board.